Tape 75- 81 3484 bytes

NOT COMPLETE--and probably out of date

# TOM WOODS NVRAM BOARD

Jim Brezina

I ordered the NVRAM board from E. Arthur Brown Co. in March of 1987. I didn't receive it until July 24, 1987. E. Arthur Brown didn't have any in stock at the time I ordered it, and, after 60 days, they started sending me delay notice cards to send back to them and indicate whether I wanted to cancel or wait for delivery. I decided to wait for delivery. If they had sent me one more card, I would have decided to cancel. I presume the delay was because Tom Woods was redesigning the board. I do not know if E. Arthur Brown will continue to carry the board as their latest catalogue does not list it. If you want to get one, you may have to order direct from Tom Woods. The original NVRAM had 4 8K RAMS on it and a bunch of jumpers for selecting chunks of RAM. The redesigned board has eliminated the jumpers and replaced the 4 8K RAMS with 1 32K RAM. The board has 2 28-pin-sockets on it for the RAMS. One socket is filled with the supplied 32K RAM. The other socket is for expanding the memory to 64K. The suggestion by Tom is to use the additional RAM as EXROM. This is controlled by the EXROM DOCK switch on the board.

The board is supplied with an instruction book, but, it is written for the original board. A supplementary sheet is enclosed with information for the redesigned board. The book has a component diagram of the original board which bears a resemblance to the new board. The main difference is the elimination of the jumpers and the location of the battery. The battery is located a little to the left and closer to the edge connector than shown. No mention is made in the supplementary sheet of how to remove the board. In the original instruction book there are warnings of where not to place your fingers for removal, and there is reference to the jumpers and to markings on the RAMS which do not appear on the 32K RAM. There is no handle like on the Timex cartridges. I found it necessary to pull it out by the spare RAM socket.

There is various information in the first part of the book such as the 2068 Chunk/Bank memory map and the port usage for the NVRAM. The ports used are 255 and 244. There is a listing of how to enable certain banks through port 244 with the command OUT 244,0 for the HOME Bank or other numbers for various chunks.

There is a program to demonstrate entering a text in the NVRAM and in the HOME RAM. The program first enters the text in the NVRAM and then another text in the HOME RAM. After doing this, the program then goes through a retrieval action. I entered this program into the computer and saved it to tape. I then ran the program and found that it worked. I then switched the WR/PR switch to PR and turned off the computer. After turning the computer back on, I then reloaded the program and entered GO TO 40 (the line that enters text in the HOME RAM). I entered a different text than in the first running and found that on retrieval the NVRAM came back with my original entry while the HOME RAM came back with my changed text. This showed me that the board was working. The program, by the way, stores the text as CHR$ CODE and retrieves it by printing the CHR$ designated by the CODE.

The next program example is to demonstrate the storage of a BASIC program in the NVRAM. A BASIC program stored in the NVRAM comes up running when the computer is turned on with the NVRAM plugged in. In order to store a BASIC program in the N